Claims

What is claimed:

1. A method of decoding an encoded block of data comprising partitioning the block into a first and a second sub-block assigned to a first and second process respectively, performing backward iterative calculations on the first sub-block based on results from backward iterative calculations on a portion of the second sub-block.

2. The method according to claim 1, further comprising performing forward iterative calculations on the first sub-block.

3. The method according to claim 2, further comprising calculating an output based on the results of the forward and backward iterative calculations performed on the first sub-block.

4. The method according to claim 3, further comprising performing forward and backward iterative calculations on the second block and calculating a second output based on the results of the forward and backward iterative calculations on the second block.

5. The method according to claim 5, further comprising combining the first and second output into a single data block.

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6. The method according to claim 4, further comprising storing the results of the iterative calculation of the second block on a temporary memory on which results from the iterative calculation of the first block are stored.

7. The method according to claim 6, wherein results from the iterative calculations on the second sub-block are stored to a portion of the temporary memory after an output based on results stored in that portion of memory is calculated.

8. A decoder comprising a processing unit adapted to perform a backward iterative calculation on a first sub-block based on results of a backward iterative calculation performed by a second processing unit on a portion of a second sub-block.

9. The decoder according to claim 8, wherein said processing unit is adapted to perform forward iterative calculations on the first sub-block.

10. The decoder according to claim 9, wherein said processing unit is adapted to calculate an output for the first sub-block based on the forward and backward iterative calculations for the sub-block.

11. The decoder according to claim 10, wherein said second processing unit is adapted to perform backward and forward iterative calculations of the second

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sub-block and to calculate an output for the second sub-block based on results from the forward and backward calculations on the second sub-block.

12. The decoder according to claim 11, wherein the processing unit comprises a forward iterative calculator, a backward iterative calculator and an output calculator.

13. The decoder according to claim 12, further comprising a temporary memory.

14. The decoder according to claim 13, wherein said temporary memory may store the results of iterative calculations on a first sub-block and then the results of iterative calculations on a second block.

15. The decoder according to claim 14, wherein portions of said temporary memory are freed up as an output of the first sub-block is calculated.

16. The decoder according to claim 15, wherein results from iterative calculations on the second sub-block are stored in the freed portion of temporary.

17. A memory unit comprised of a digital memory and a memory controller adapted to provide a forward iterative calculator and a backward iterative calculator simultaneous access to said memory.

18.   The memory unit according to claim 19, wherein said controller allows the forward calculator to write to portions of said memory from which results of the backward calculator were already read.